

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)  
(PCT Article 36 and Rule 70)

REC'D 09 FEB 2006

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Applicant's or agent's file reference S-18	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/JP2005/005462	International filing date (day/month/year) 17.03.2005	Priority date (day/month/year) 17.03.2004	
International Patent Classification (IPC) or national classification and IPC Int.Cl. F28F9/02 (2006.01), B60H1/32 (2006.01), F25B39/02 (2006.01), F25B39/04 (2006.01), F28F21/08 (2006.01)			
Applicant SHOWA DENKO K.K.			

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: <div style="margin-left: 20px;"> a. <input type="checkbox"/> a total of _____ sheets, as follows: <div style="margin-left: 20px;"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. </div> </div> b. <input type="checkbox"/> a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4.	This report contains indications relating to the following items: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I Basis of the report  <input type="checkbox"/> Box No. II Priority  <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  <input type="checkbox"/> Box No. IV Lack of unity of invention  <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  <input type="checkbox"/> Box No. VI Certain documents cited  <input type="checkbox"/> Box No. VII Certain defects in the international application  <input type="checkbox"/> Box No. VIII Certain observations on the international application </div>

Date of submission of the demand 16.09.2005	Date of completion of this report 01.02.2006	
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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2005/005462

## Box No. I Basis of the report

1. With regard to the **language**, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
  - ☐ publication of the international application (Rule 12.4(a))
  - ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- Nos. \_\_\_\_\_ as originally filed/furnished
- Nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- Nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- Nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- sheets/figs \_\_\_\_\_ as originally filed/furnished
- sheets/figs \* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets/figs \* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2005/005462

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	2-22	YES
	Claims	1	NO
Inventive step (IS)	Claims	5-17	YES
	Claims	1-4, 18-22	NO
Industrial applicability (IA)	Claims	1-22	YES
	Claims		NO

## 2. Citations and explanations(Rule 70.7)

## Document 1

JP 2003-519356 A (VALEO CLIMATISATION) 2003.06.17,  
line 13, page 9 to line 14, page 13, Figs 1 to 4  
& US 2002/0134538 A1 & EP 001192402 A1 & WO 2001/050080 A2

## Document 2

JP 2003-314987 A (DENSO Co., Ltd.) 2003.11.06,  
line 50, column 9, page 6 to line 2, column 11, page 7, lines 31-36, column  
11, page 7, Figs 12 to 14  
& US 2003/0155109 A1 & DE 010306786 A

The subject matter of claim 1 does not appear to be novel with respect to D1.

Claim 1 relates to "a heat exchanger header tank comprising a header forming plate, a tube connecting plate and an intermediate plate interposed between the two plates, the header forming plate, the tube connecting plate and intermediate plate being arranged in superposed layers and brazed to one another". Such "a heat exchanger header tank" appears to be known from D1 (see page 9, line 13 to page 13, line 14, Figs 1 to 4).

The subject matter of claim 2 does not appear to involve inventive steps in view of the document 1 and the document 2 cited in the ISR.

A skilled person in the art would easily conceive the idea of applying the technical feature "press forming" employed in D2 to "the fluid chambers (28,46), the manifold (16) and the manifold plate (22)" disclosed in D1.

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: V

The subject matter of claim 3 does not appear to involve inventive steps in view of the document 1 and the document 2.

The technical feature "each of opposite side edges of the manifold (16)" in D1 and the feature "the plate section 160 is integrally provided at each of opposite side edges thereof with the gripping section 162 covering a boundary between the tank section 150 and the intermediate plate section 170 over the entire length thereof, and the gripping section 162 is brazed to corresponding side faces of the tank section 150 and the intermediate plate section 170" in D2 are concerned with mutually related technical fields. A skilled person in the art would easily conceive the idea of employing the feature in D1 to substitute the feature disclosed in D2.

The subject matter of claim 4 does not appear to involve inventive steps in view of the document 1 and the document 2.

The technical feature "each of opposite side edges of the manifold (16)" in D1 and the feature "the gripping section 162 is integrally provided at an outer end thereof with an outer surface of the tank section 150 and brazed to the tank section 150" in D2 are concerned with mutually related technical fields. A skilled person in the art would easily conceive the idea of employing the feature in D1 to substitute the feature disclosed in D2.

The subject matter of claim 18 does not appear to involve inventive steps in view of the document 1 and the document 2.

The technical feature "a heat exchanger header tank is folded temporary relation of the assembly with a view to the brazing" is disclosed in D1. The technical feature "Solder is provided on the tank section 150 on the plate 160 side. On both side of the plate section 160, solder is previously clad. The intermediate plate section 170 is made of a bare plate member." is disclosed in D2.

The subject matters of claim 19-22 do not appear to involve inventive steps in view of the document 1 and the document 2.

The technical feature "a heat exchanger" in D1 and the features "the gas cooler comprising a heat exchanger according to claim 19-22, etc." in D2 are concerned with mutually related technical fields. A skilled person in the art would easily conceive the idea of employing the feature in D1 to substitute the feature disclosed in D2.

The subject matters of claim 5-12 are neither disclosed in any of the documents cited in the ISR nor obvious to a person skilled in the art.